

REMARKS/ARGUMENTS

The specification has been conformed to correspond to the preferred format for U.S. patent applications as required in the Office Action, and a Substitute Specification and Comparison Copy are submitted herewith.

Claims 1-4 and 6-16 are pending in this application. Claim 5 has been canceled.

The specification was objected to because paragraph 42 of the application as originally filed was asserted to incorporate “essential material in the specification by reference to DE 102 26 444”. Paragraph 42 (paragraph 41 of the Substitute Specification) has been reworded and states that details of the receiver 50 are described, for example, in that German reference. Since such receivers are known, e.g. from that German reference, but their exact construction and functioning are neither claimed nor are they of particular significance to the present invention, it is proper and conforms to common practice to simply refer the reader to the publicly available document which describes such receivers in more detail.

In view thereof, applicant requests that the objection to the specification be retracted.

Applicant notes with appreciation that original claims 1-14 patentably distinguish over the prior art.

Claims 1 and 11 were rejected under Section 112, second paragraph, because it was considered unclear “how the mechanical shaft and the collimator lens are connected together or related to each other or structured to measure the angle”. Applicant submits that these claims are properly worded for the following reasons.

Fig. 6 schematically illustrates the arrangement of the mechanical and optical elements of the instrument. The light source 20 (mounted on a transmitter board 25, see Fig. 3) and the collimator lens 30 are carried by shaft end portion 41, which is shown coupled to rotating shaft 40 via bearing 46 (see Fig. 3). When the shaft and the shaft end portion coupled thereto rotate, the light, the collimator refractive lens and the dimensional standard 10 rotate together

about rotational axis 3. The sensing receiver 50 is mounted on a receiver board 55 secured to housing 5 so that the sensing receiver is opposite to and spaced a short distance from the dimensional standard, as is described in paragraph 0039 of the Substitute Specification. When shaft 40 and end piece 41 rotate and light source 20 is energized, light collimated by lens 30 is modulated by the dimensional standard. The sensing receiver 50 analyzes light passing the dimensional standard to determine the angular position of the rotating shaft, the shaft end portion and the dimensional standard.

Claim 1 is directed to the principal elements of the instrument as discussed above, and the part of claim 1 following "characterized in that" accurately recites that at least the end piece 41 of the shaft as a mechanical component and the collimator lens 30 as an optical component of the instrument are formed as a single plastic part which accommodates the light source as well as additional electronic components.

Applicant submits that claim 1 accurately and sufficiently describes how the mechanical shaft, and in particular the end portion of the mechanical shaft, and the collimator lens are connected and related to each other so that the angle can be measured as discussed above.

The same applies to independent method claim 11. Following "characterized in", the claim recites that "an end portion of the shaft and the refractive collimator lens are made from a single plastic part, and the light source, a receiver coil and additional electronic components are encased by the single plastic part".

New independent claim 15 is again a claim similar to claim 1, but it has been slightly reworded and what are deemed unnecessary limitations have been deleted. Applicant submits that claim 15 is allowable for the same reasons why claims 1 and 11 are allowable. Amongst others, claim 15 recites that "at least the end piece of the shaft and the collimator lens [are] formed as a single plastic part".

In light of the foregoing, applicant submits that independent claims 1, 11 and 16 are clear and requests that their rejection under Section 112 be retracted.

Claims 2-4 (claim 5 has been canceled) were objected to as failing to further limit the subject matter of their parent claims.

Claims 2 and 3 have been reworded to affirmatively recite additional claimed elements, such as the coil former, the board holder, etc. Claim 2 has been reworded to include the dimensional standard as additional recited structural elements for the angle measuring instrument recited in claim 1.

Claim 4 was also objected to as failing to further limit its parent claim 1. Applicant submits that claim 4 is proper. It recites that the single plastic part is an injection molded part. Claim 1 only recites that the end piece of the shaft and the collimator lens form a single plastic part. An injection molded part differs from other plastic parts. Thus, claim 4 does further structurally limit claim 1, and applicant requests the retraction of this rejection.

Claim 5 has been canceled.

Method claim 14 was also rejected for failing to further limit the method of its parent claim 11. Claim 1 recites a method for producing an angle measuring instrument which has, amongst others, a lens. Claim 14 recites the additional step of “providing the lens with a stepped lens surface”. This process-type limitation requires further manipulation of the lens recited in claim 1, namely providing it with a stepped surface. Thus, claim 14 does further limit claim 11.

In view of the foregoing, applicant requests that the objection to claims 2-4 and 14 under 37 CFR 1.75(c) be retracted.

CONCLUSION

In view of the foregoing, applicant submits that all claims are in full compliance with 37 CFR 1.75(c) and with 35 USC §112, second paragraph. Further, the specification has been conformed to the preferred format as required in the Office Action.

In view thereof, applicant submits that this application is in condition for allowance, and a formal notification to that effect at an early date is requested.

Application No. 10/606,669
Amendment
Reply to Office Action of February 7, 2005

PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (415) 576-0200.

Respectfully submitted,


J. Georg Seka
Reg. No. 24,491

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: (415) 576-0200
Fax: (415) 576-0300
JGS:jhw
60486962 v1